

MEMORANDUM

TO: Andres J. Molina Northboro DATE: June 9, 2003
FROM: George A. Cook Worcester FILE: LR(M) 1567
SUBJECT: WACHUSETT NO. 47 SUBSTATION, WEST BOYLSTON, MA

DTE No. 04-_____
Exhibit AJM-4
Page 1 of 4

Daytime and night-time ambient measurements were made in the vicinity of the Wachusett No. 47 Substation, West Boylston Ma. The daytime measurements were made on May 15, 2003 and the night-time measurements were made on May 28, 2003. The measurements were made using a Rion NL32 Real Time Analyzer. The A-Weighted Sound Pressure measurements are in dBA.

The meteorological conditions at the time of the surveys were:

Daytime: 9:00 AM to 10:30 AM Clear, 62°F, Wind: 3-6 mph
Night-time: 11:30 PM to 12:00 AM Cloudy, 50°F, Wind: calm

Daytime ambient ranged from 32 to 34 dBA. Night-time ambient ranged from 30 to 32 dBA. Ambient noise was influenced by light road traffic and chirping birds. Noise levels at the resident's property line northwest of the substation were 49 to 51 dBA during the day and 51 to 53 dBA at night.

The data below lists the noise level produced from the existing transformer and the expected noise levels to be produced from the proposed additional 5 transformers with the existing transformer. There is also an additional configuration showing 7 transformers with the existing transformer for a total of eight transformers. The first four transformers are 115/69 kV rated compared to the proposed transformers, T5 thru T8, that are 345/115 kV rated. The expected level of noise is based on distances using the new substation layout plan. These expected noise levels are higher than the exiting daytime and night-time measured ambient noise levels. However, this should not be of concern to the residents of the home shown on the attached schematic. There are railroad tracks close to the west side of the substation that are elevated significantly by a man-made berm acting as a buffer from the substation transformer noise. (This rail line is active.) There is a brook that passes between the railroad tracks and the residence and there is a significant amount of noise emanating from it also.

<u>Location</u>	<u>Noise Level in dBA</u>
<u>Residence 1</u>	
Noise level at property line - day time	49 to 51
Noise at property line - night-time	51 to 53
Noise level from existing substation	36.6
Noise level predicted from 5 additional transformers	42.6
Noise level predicted from 7 additional transformers	44.6

Attached is a schematic of the site location along with an Excel sheet showing the values used in arriving at the new predicted sound levels.

Should you have any questions, please call me at Worcester Ext. 36388.

George A. Cook

c: Robert D. Archambeault
Joseph R. Sierra

- ENGINEERING LABORATORY -

DTE No. 04-_____
Exhibit AJM-4
Page 2 of 4



WACHUSETT SUBSTATION No. 47 WEST BOYLSTON, MA

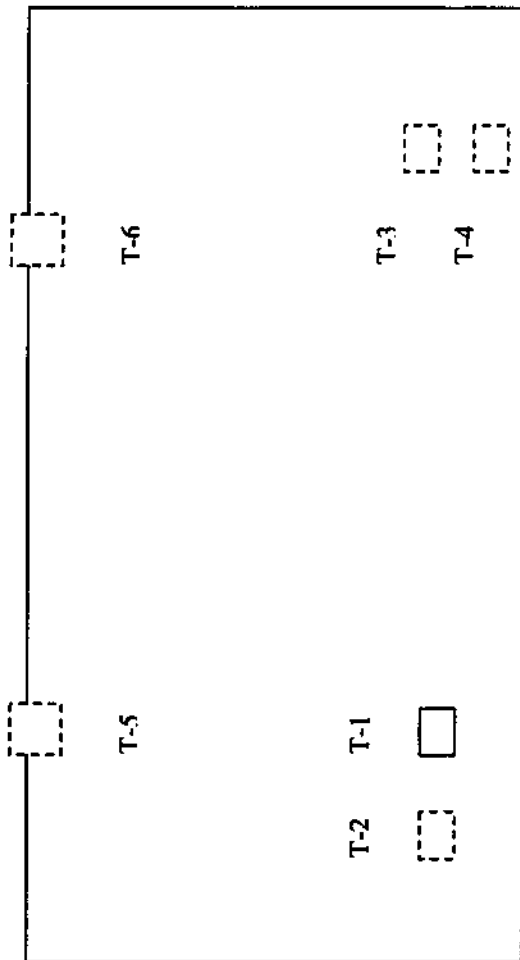
Proposed

Existing

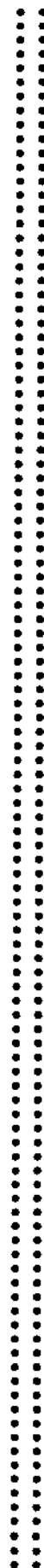
N

T-8

T-7



Railroad



Route 140

R-1

DTE No. 04-
Exhibit AJM-4
Page 4 of 4

Date: June, 2003
Drawn By: George A. Cook
Scale: NTS
Engineering Laboratory